

WATeR investigates lake “greening”

Marilyn Hawkey – published 4/15/20 in The Connection

The mission of the Watershed Association of Tellico Reservoir (WATeR) is to protect and improve the environment in the Tellico Reservoir Watershed. Last year, some boaters and residents living along the lake shore reported “greening” at the shoreline, particularly in coves. They also reported a developing density of weeds near the shoreline.

If some parts of the reservoir are greening with algae and weeds, what’s the food source that’s fostering this growth? There are no large cities upstream to pollute the waters of the Little Tennessee and Tellico Rivers. Additionally, there are minimal issues with industrial discharge because the industries in Vonore’s industrial park were constructed after environmental regulations were in effect and are considered clean industries.

Members of WATeR decided that it was important to investigate this increase in growth on the lake. One of the ways to study such change is to look at trophic levels. Trophic levels are a measurement of the availability of food/energy in a defined ecosystem. WATeR sampling team leader Bill Atkinson, fish biologist Garry Lucas and wastewater professional engineer Jim Hawkey designed a sampling project to define the trophic status of Tellico Reservoir and provide baseline data for a more comprehensive monitoring of the reservoir’s water quality.

Mr. Lucas explained how this sampling would be done. He stated: “Tellico Reservoir will be sampled at 6 different locations in April, July and September of 2020. Two samples will be taken at each location for analysis by two different labs. Phytoplankton species and total nitrogen will be sampled in July. This is a large financial commitment for WATeR as these three sets of samples will cost about \$4,700.00.”

Another measure of change is water clarity. WATeR began sampling the lake's water clarity in 2018 at multiple sites along the shoreline. The purpose of this sampling is to analyze trends in water clarity, an indication of the trophic status of a body of water. It also provides a quantitative basis for setting goals for water quality.

Interpretation of the collected data and its conversion to trends and analysis is complicated. The seasons affect the water with differences in day/evening air temperatures and they effect water temperatures. The reservoir is 656 square miles large, has 15,600 acres of water surface, 357 miles of shoreline and is up to 80 feet deep. At anyone given day or time, conditions will not be identical for all areas of the reservoir. Therefore, interpretation of conditions for seemingly similar areas, may not be the same. That's why someone can report greening at the shoreline and not see it in the middle of the lake.

WATeR's goal will be to look at conditions near and about the shoreline and determine the sources of food/energy that encourages greening – growth of algae - and increased vegetation. Bill Waldrop, Chair for WATeR's water quality committee, says, "We suspect that stormwater runoff from increased development around the lake is carrying too many nutrients into the lake." Based on our data, WATeR will develop a plan to identify causes and solutions that maintain the pristine conditions of the water for recreational and esthetic purposes and that maintain property values.

WATeR is a not-for-profit organization. Go to its website at www.tellicowater.org to learn more. Support WATeR's mission by becoming a member. Request a membership application at tellicowater@aol.com.